Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A footswitch for a dental scaler, ~~ing tip~~ comprising:

a sealed footswitch housing, the footswitch housing including a power switch disposed within the housing, ~~providing~~ a pivoting member operable by a foot to engage and disengage a power switch in ~~said~~the footswitch housing, a circuit energized by the power switch to drive an oscillator for providing power to an ultrasonic transducer in a dental scaler for converting electrical energy to mechanical energy, and a potentiometer for regulating the power to an ultrasonic transducer relative to the movement of the footswitch; and a hydraulic solenoid energized by the power switch [[to]]for opening a valve disposed in the housing for causing the movement of water through the footswitch housing to the dental scaler~~ring tip~~;

a cable for connecting an electrical power supply to the housing;

a hose for connecting to a water supply to the housing;

~~a circuit energized by the footswitch power supply to drive an oscillator for providing power in a dental scaling handpiece to an ultrasonic~~

~~transducer for converting electrical energy to mechanical energy~~a remote head for providing an electrical and a fluid connection to a handpiece of the dental scaler and a valve disposed in the head for the adjustment of water flow to the handpiece; and,

a conductor bundle for ~~transmitting electrical energy and water to a remote head, said remote head~~ providing an electrical and a fluid connection ~~to a handpiece in a standard dental scaler and a valve for the adjustment of water flow to said dental scaling handpiece~~between the footswitch housing and the head.

2. (Original) The footswitch of claim 1 wherein the ultrasonic transducer is a magnetostrictive stack and velocity transducer.

3. (Original) The footswitch of claim 1 wherein the ultrasonic transducer is a piezoelectric crystal and velocity transducer.

4. (Original) The footswitch of claim 1 wherein the remote head on said conductor bundle includes an input device for changing the frequency of the oscillator in said footswitch housing.

5. (Original) The footswitch of claim 1 further comprising a light source.

6. (Original) The footswitch of claim 5 wherein the light source is energized by the power switch.

7. (Original) A method for performing dental scaling comprising:

connecting the footswitch housing of claim 1 to a power supply;

connecting the footswitch housing of claim 1 to a water supply;

connecting the remote head of claim 1 adjacent a patient to a handpiece control cable;

depressing the footswitch to energize the circuit and engage the hydraulic solenoid;

engaging a dental scaler and moving the footswitch to clean the teeth of a patient.

8. (Original) A counterless ultrasonic dental scaler system, comprising:

an integral housing unit for placement on the floor adjacent a dental chair;

a pivoting foot platform mounted on the housing unit operatively associated with a microswitch and a potentiometer disposed in the housing unit;

a hydraulic solenoid disposed in the housing unit and operatively coupled to the microswitch for opening and closing a valve in the housing unit to selectively start and stop a water supply stream;

a circuit disposed in the housing unit selectively energized and de-energized by the microswitch to drive an oscillator for providing power to an ultrasonic transducer in a dental scaler handpiece remote from the housing unit at or near a resonant frequency for ultrasonically vibrating a scaling tip coupled to the stack via a velocity transducer;

electrical and water input conductors connected to the housing unit;

a main cable connecting the dental scaler handpiece to the housing unit, the cable comprising an electrical conductor for transmitting the power to the stack and a water conductor for supplying water to the handpiece.

9. (Original) The counterless ultrasonic dental scaler of claim 8 wherein the ultrasonic transducer is a magnetostrictive stack coupled to a velocity transducer.

10. (Original) The counterless ultrasonic dental scaler of claim 8 wherein the ultrasonic transducer is a piezoelectric crystal coupled to a velocity transducer.

11. (Original) The counterless ultrasonic dental scaler of claim 8 further comprising a light supply source in the housing unit energized by the microswitch and operatively coupled via the main cable to a light emitter disposed adjacent the handpiece for illumination of the tip.

12. (Original) The counterless ultrasonic dental scaler system of claim 8 further comprising a control unit attached to the main cable intermediate the housing unit and the handpiece and a fastener operatively associated with the control unit for releasably mounting the control unit to a structure within reach of a dental practitioner operating the system, the control unit including a valve in the water conductor for controlling the water supply stream.

13. (Original) The counterless ultrasonic dental scaler system of claim 9 wherein the circuit includes an automatic tuning feature and the control unit is free of additional controls other than the valve.

14. (Original) The counterless ultrasonic dental scaler of claim 9 further comprising a manual tune feature comprising a frequency adjustment input device associated with the controller and operatively coupled to the circuit via the main cable.

15. (Original) The counterless ultrasonic dental scaler of claim 9 wherein the mounting structure is the dental chair.

16. (Original) The counterless ultrasonic dental scaler of claim 9 wherein the mounting structure is the dental practitioner.

17. (Original) The counterless ultrasonic dental scaler of claim 11 wherein the light supply source is fiberoptically coupled to the light emitter.